

ABSTRACT

A method and system for solving satisfiability problems is disclosed. In one embodiment, clauses in a satisfiability problem are organized as a chronologically ordered stack. In another embodiment, the activity of each variable in the satisfiability problem is monitored. An activity counter is maintained for each variable and is incremented each time
5 the variable appears in a clause used in generating a conflict clause. In an embodiment, a branching variable is selected from among the variables in the top clause of the stack when the top clause is a conflict clause. In a further embodiment, one or more conflict clauses in the stack are removed when the search tree is abandoned. In a still further embodiment, the value
10 assigned to a branching variable is selected for purposes of having a uniform distribution of positive and negative literals.